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EXAMINER	
MONIKANG, GEORGE C	
ART UNIT	PAPER NUMBER
2615	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,523	THOMAS ET AL.	
	Examiner	Art Unit	
	George C. Monikang	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/560,523.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/13/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 6-7, 10-11, 15-16, 19-20 & 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Finn et al, US Patent 6,496,581 B1. (The Finn et al reference is cited in IDS filed 12/13/2005)

3. Re Claim 6, Finn et al disclose device for processing an echo between at least two communication devices coupled to each other by a telecommunication network to attenuate (*fig. 2: cell phone 1 & 2; col. 7, lines 40-58; col. 5, lines 62-65*), in a signal picked up by another communication device having at least one microphone (*fig. 2: 36 & 38; col. 7, lines 40-58*), the components of a signal broadcasted by at least one communication device including at least one loudspeaker of at least one communication device (*fig. 2: 32; col. 7, lines 28-40*), the echo processing device comprising: a receiver for obtaining information representing the signal broadcasted by the communication device (*fig. 2: 32 & 34; col. 7, lines 28-40*), a signal processing arrangement for transferring the information obtained via coupling with at least the other communication device (*fig. 2: 12 & 16; col. 7, lines 28-58*).

4. Re Claim 7, Finn et al discloses the echo processing device according to claim 6, wherein the echo processing device also comprises circuitry obtaining information

representing the coupling between at least one loudspeaker of the said at least one communication device and the microphone of the other communication device (*fig. 2: 12 & 16; col. 7, lines 28-58*).

5. Re Claim 10, Finn et al disclose the echo processing device according to claim 6, wherein the circuitry is arranged for establishing the number of other communication devices and establishing the number of loudspeakers of the other communication devices (*col. 7, lines 28-58*).

6. Re Claim 11, Finn et al disclose the echo processing device according to claim 10, wherein the echo processing device also comprises: a generator for generating at least one predetermined audible signal (*fig. 5: 218 & 258*), a receiver for receiving, by means of a coupling with at least one other device, information representing the reception of the audible signal by at least one other device (*fig. 2: 32 & 34; col. 11, lines 48-67*), the signal processing arrangement being arranged for determining the coupling between a loudspeaker of the said communication device and the microphone of at least one other communication device (*col. 12, lines 1-18*).

7. Claims 15 & 22 have been analyzed and rejected according to claim 6.

8. Claim 16 has been analyzed and rejected according to claim 7.

9. Claim 19 has been analyzed and rejected according to claim 10.

10. Claim 20 has been analyzed and rejected according to claim 11.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-5, 8, 12-14 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finn et al, US Patent 6,496,581, in view of Boland, US Patent Pub. 2003/0123674 A1.

4. Re Claim 1, Finn et al discloses device for processing an echo between at least two communication devices coupled to each other by a communication network to attenuate (*fig. 2: cell phone 1 & 2; col. 7, lines 40-58; col. 5, lines 62-65*), in a signal picked up by a communication device having at least one microphone (*fig. 2: 36 & 38; col. 7, lines 40-58*), the components of a signal broadcasted by at least one loudspeaker on at least one other communication device (*fig. 2: 32; col. 7, lines 28-40*), the echo processing device comprising: a receiver for receiving, via coupling with at least one

other device (*fig. 2: 32; col. 7, lines 28-58*), information representing at least one signal broadcast by at least one loudspeaker on another communication device (*fig. 2: 32 & 34; col. 7, lines 28-40*), a signal processing arrangement for modifying the signal picked up by the communication device from information representing the broadcasted signal (*col. 7, lines 28-58*); but fails to disclose weighting the broadcasted signal by a coefficient representing coupling between a loudspeaker of the at least one other communication device from the microphone of the communication device. However, Boland does (*abstract*).

5. Taking the combined teachings of Finn et al and Boland as a whole, one skilled in the art would have found it obvious to modify the device for processing an echo between at least two communication devices coupled to each other by a communication network to attenuate (*fig. 2: cell phone 1 & 2; col. 7, lines 40-58; col. 5, lines 62-65*), in a signal picked up by a communication device having at least one microphone (*fig. 2: 36 & 38; col. 7, lines 40-58*), the components of a signal broadcasted by at least one loudspeaker on at least one other communication device (*fig. 2: 32; col. 7, lines 28-40*), the echo processing device comprising: a receiver for receiving, via coupling with at least one other device (*fig. 2: 32; col. 7, lines 28-58*), information representing at least one signal broadcast by at least one loudspeaker on another communication device (*fig. 2: 32 & 34; col. 7, lines 28-40*), a signal processing arrangement for modifying the signal picked up by the communication device from information representing the broadcasted signal (*col. 7, lines 28-58*) of Finn et al with weighting the broadcasted signal by a coefficient representing coupling between a loudspeaker of the at least one other

communication device from the microphone of the communication device as taught in Boland (*abstract*) to reduce or eliminate undesirable effects.

6. Re Claim 2, the combined teachings of Finn et al and Boland disclose the echo processing device according to claim 1, wherein the communication device includes the echo processing device (*Finn et al, col. 7, lines 28-58*).

7. Re Claim 3, the combined teachings of Finn et al and Boland disclose the echo processing device according to claim 2, further including a controller for controlling echo between at least one of the loudspeakers and at least one microphone of the communication device (*Boland, fig. 2: 242; para 0046*).

8. Re Claim 4, the combined teachings of Finn et al and Boland disclose the echo processing device according to claim 1 wherein the information received representing at least one broadcasted signal from at least one other communication device was previously weighted by a coefficient representing the coupling between a loudspeaker of the said at least one other communication device and the microphone of the communication device (*Boland, abstract*).

9. Re Claim 5, the combined teachings of Finn et al and Boland disclose the echo processing device according to claim 4, wherein the signal processing arrangement for modifying the picked up signal is arranged to modify the picked up signal according to the weighted broadcasted signal of at least one other communication device in the reference echo control signal of the communication device (*Boland, para 0046*).

10. Re Claim 8, Finn et al disclose the echo processing device according to claim 7, but fails to disclose wherein the signal processing arrangement is arranged for

weighting the information representing the broadcasted signal of the communication device by coefficients associated with information representing the couplings between at least one loudspeaker of the said at least one communication device and the microphone of the other communication device. However, Boland does (*abstract*).

11. Taking the combined teachings of Finn et al and Boland as a whole, one skilled in the art would have found it obvious to modify the echo processing device according to Finn et al with wherein the signal processing arrangement is arranged for weighting the information representing the broadcasted signal of the communication device by coefficients associated with information representing the couplings between at least one loudspeaker of the said at least one communication device and the microphone of the other communication device as taught in Boland (*abstract*) to reduce or eliminate undesirable effects.

12. Claim 12 has been analyzed and rejected according to claim 1.

13. Claim 13 has been analyzed and rejected according to claim 4.

14. Re Claim 14, the combined teachings of Finn et al and Boland disclose the echo processing method according to claim 13, wherein the picked up weighted signal is taken into account in a reference echo control signal of the communication device (*Boland, abstract*).

15. Claim 17 has been analyzed and rejected according to claim 8.

16. Claims 9 & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finn et al, US Patent 6,496,581 and Boland, US Patent Pub. 2003/0123674 A1, as

applied to claim 8 above, and further in view of Janse et al, US Patent Pub. 2003/0026437 A1.

17. Re Claim 9, the combined teachings of Finn et al and Boland disclose the echo processing device according to claim 8, but fails to disclose wherein the communication device comprises a plurality of loudspeakers coupled with the at least one communication device (*Janse et al, abstract*) so that (a) the signals reproduced by each loudspeaker of the least one communication device are weighted by respective coefficients representing the couplings between each loudspeaker of the communication device and the microphone of the other communication device (*Janse et al, abstract*) and (b) the weighted signals are added (*Janse et al, para 0030*). However, Janse et al does.

18. Taking the combined teachings of Finn et al, Boland and Janse et al as a whole, one skilled in the art would have found it obvious to modify the echo processing device according to Finn et al and Boland with wherein the communication device comprises a plurality of loudspeakers coupled with the at least one communication device (*Janse et al, abstract*) so that (a) the signals reproduced by each loudspeaker of the least one communication device are weighted by respective coefficients representing the couplings between each loudspeaker of the communication device and the microphone of the other communication device (*Janse et al, abstract*) and (b) the weighted signals are added (*Janse et al, para 0030*) as taught in Janse et al so a fine tuned model can effectively be made in cases wherein speakers move.

19. Claim 18 has been analyzed and rejected according to claim 9.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

11/20/2007

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